

REMARKS

Claims 21-40 are pending in the application. This Amendment amends claims 21, 23, 24, 26, 28, and 29.

The Claim Objections

Claims 23, 24, and 29 are objected to because of various, differing informalities. Applicants have amended the claims in a manner thought to resolve this objection. Applicants respectfully request withdrawal of this objection.

The Claimed Invention

The present invention discloses a dishwasher that allows oxygenating gases, especially ozone, to be used for both cleaning and disinfecting. To accomplish this, oxygenating gas is added to the rinsing liquor or the crude water and/or the washing container for use in a partial program cycle having a cleaning effect. This has the advantage of reducing the consumption of the amount of water required during a wash cycle. Oxygenating gas, such as ozone, is a strong oxidizing agent that has properties such as deodorizing, sterilizing and oxidation of organic substances. Yet, in the related art, while ozone has been applied for purposes such as sterilization after a wash cycle, it has not been incorporated into the wash cycle itself as in the present invention.

The Rejections under 35 U.S.C. § 101

Claim 21 stands rejected under 35 U.S.C. § 101. The grounds of rejection allege that because claim 21 recites the limitation of "a dishwasher comprising ... at least one wash program comprising partial program steps ...", that the embodiment recited in claim 21 is interpreted as computer codes/signal, which are non-statutory subject matter.

Applicants respectfully traverse this rejection, but solely to advance prosecution of exemplary embodiments of the present invention, Applicants have amended claim 21 herein in a manner thought to remove this rejection.

Applicants respectfully submit that one advantage of the present invention over the related art is that in the present invention, ozone gas is used in the wash cycle itself, rather than as used in the related art in only a sterilization or disinfection process after the wash cycle. Accordingly, Applicants have amended claim 21 to recite "devices for generating a gas having an oxidizing effect that is employed in a wash program."

Applicants note that these amendments are mere formalities and should not require an additional search by the Examiner.

The Rejections under 35 U.S.C. § 112

Claims 21-31 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicants have amended the claims in a manner thought to overcome the various rejections cited in the Office Action.

The Rejections under 35 U.S.C. § 102

Claims 21-24, 27, 28, 30 and 40 stand rejected under 35 U.S.C. § 102(b) as being anticipated by JP 10-014844. The grounds of rejection, in view of the claimed features of

independent claim 21, allege that JP '844 teaches a device for washing and disinfecting dish and other tableware (citing the title of the document) comprising a washing container (citing Figure 1, item 2), devices for applying rinsing liquor to the items to be washed in the washing container (citing Figure 1, item 7), and a wash program (here, for reasons unexplained, the grounds of rejection note “?”). Applicants first respectfully submit that the question included in the grounds of rejection as to the features of JP '844 is, in itself, a first reason to traverse the rejection).

The grounds of rejection further state the JP '844 teaches a wash program comprising partial program steps (citing the Abstract, noting a washing mode and a disinfecting mode); the washing container being operable to receive therein a gas having an oxidizing effect that has to the rinsing liquor or a raw water and/or otherwise added into the interior of the washing container for use for a partial program step having a cleaning effect, so that the gas can at least used for cleaning and disinfection.

Applicants note that JP '844 relates to a dishwasher focused on providing lower cost and shorter wash times during the disinfection/sterilization process. In JP '844, the washing mode is the first process and is disclosed as only using water and/or detergent. JP '844 suggests the use of ozone only for a disinfection mode where ozone gas and water are brought into contact with each other in a gas-liquid mixing part 51 and scattered in the chamber through ozone atomizer nozzles 63. JP '844 discusses in paragraphs [0002] and [0009] that dishwashers use high heat to eliminate bacteria present in the utensils after washing them. That is, for a sterilization process. JP '844 suggests that rather than use high heat, that the sterilization process (after the wash cycle) be done

using methods similar to those employed for sterilizing medical devices. Accordingly, Applicants respectfully submit that JP '844 does not disclose the claimed feature of one or more devices for generating a gas having an oxidizing effect that is employed in a wash program. Rather, JP '844 teaches use of gases in the sterilization process similar to the art discussed in the present specification.

With respect to claim 22, the grounds of rejection state that the gas having an oxidizing effect can be applied to the items to be washed in cooperation with mist in the interior of the washing container. Applicants note that JP '844 uses a mist during a sterilization process and not a wash process. As such, Applicants respectfully submit that claim 22 is allowable for its dependence on claim 21 as well as its individual mist features during the washing process. Likewise with the nebulizer of claim 23. Further, all the dependent claims are allowable at least based on their dependence on claim 21.

With respect to independent claim 40, Applicants note that it recites the feature of "the washing container being operable to receive therein ozone-enriched mist at least for cleaning items to be washed." Thus, again, since JP '844 does not disclose or suggest the use of ozone during a wash process, Applicants respectfully submit that claim 40 is allowable.

The Rejections under 35 U.S.C. § 103

Claims 21-23, 25, 28 and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ono (U.S. Patent No. 5,172,572) in view of JP 2003-144372. Ono relates to a dish washing machine or a washing machine that is operated under washing conditions that assess whether the detergent has been properly changed in accordance with the degree of contamination. As such, other than disclosing the general elements of a dishwasher and a washing cycle, Applicants respectfully submit that Ono is not relevant to the problem solved by the present invention. Indeed, the grounds of rejection acknowledge that Ono does not disclose or suggest a washing container being operable to receive therein a gas having an oxidizing effect that has been added to the rinsing liquor or the raw water and/or otherwise added into the interior of the washing container. However, the grounds of rejection state that JP 2003-144372 teaches a dishwasher comprising a washing container (citing Figure 10, item 2) being operable to receive therein a gas having oxidizing effect (citing the Abstract) added into the interior of the washing container for use for a partial program step having cleaning effect, so that the gas can at least be used for cleaning and disinfection (citing Figure 10 and the Abstract). As such, the grounds of rejection allege that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dishwasher of Ono by having the washing container being operable to receive therein a gas having an oxidizing effect so that the gas can at least be used for cleaning and disinfection as motivated by JP 2003-144372 to sterilize and deodorize dishes.

Applicants respectfully traverse this rejection. JP '372 discloses a dishwasher that uses ozone rather than high temperature for sterilizing its dishes. As discussed in paragraph [0006] of JP '372, its purpose is to sterilize food utensils without using hot water.

Paragraph [0009] of JP '372 states that in its invention, since ozone has a strong oxidizing power, if ozone is supplied in a washing warehouse, after washing and it contacts food utensils, it will annihilate the various saprophytic bacteria adhering to food utensils. Thus, JP '372 does not teach using ozone in a wash cycle as in the present invention. Accordingly, Applicants respectfully submit that the claims distinguish over the combination of Ono and JP '372.

Claims 21-24 and 28-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ono in view of JP 11-137882. Claim 26 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ono in view of JP 11-137882 in further view of Veeder et al. (U.S. Patent No. 5,863,031). As discussed above, the grounds of rejection acknowledge that Ono does not disclose or suggest a washing container being operable to receive therein a gas having an oxidizing effect that has been added to the rinsing liquor or the raw water and/or otherwise added into the interior of the washing container. Yet, in this rejection, the grounds of rejection allege that JP 11-137882 teaches a dishwasher comprising a washing container (citing Figure 7, item 51) being operable to receive therein a gas having an oxidizing effect added into the interior of the washing container. The grounds of rejection further state that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dishwasher of Ono by having the washing container being operable to receive therein a

gas having an oxidizing effect added into the interior of the washing container as motivated by JP 11-137882 to reduce COD (Chemical Oxygen Demand) and BOD (Biochemical Oxygen Demand) in drain water.

Applicants respectfully traverse this rejection. Applicants note that JP '882 clearly states in its Abstract and Problem To Be Solved, its purpose is to enable COD and BOD of home washer waste water to be reduced and purified to drain out without affecting the washing efficiency, by equipping a control means provided with a process to dissolve ozone from an ozone generating mechanism into washing water after the completion of a washing process using a detergent. Thus, JP '882 does not disclose the ozone wash feature of the present invention and actually teaches away from the invention.

Applicants also traverse the statement provided in the grounds of rejection that "since all the structures are found in the combined prior art, it is fully capable of performing the functions as recited in claims 21-22 and 24". Applicants note in addition to neither reference disclosing use of ozone during a wash process, that the grounds of rejection's conclusion of obviousness appears to be based on improper hindsight reasoning in view of Applicant's own disclosure.

CONCLUSION

In view of the above, entry of the present Amendment and allowance of claims 21-40 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

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